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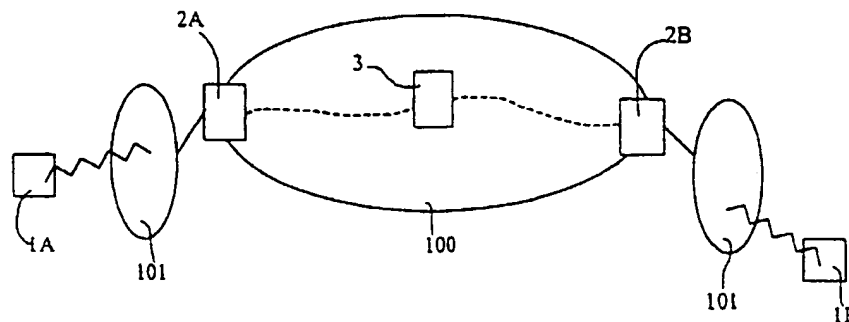
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(54) Abstract Title  
**Opening up a connection across a computer network**

(57) When a terminal 1B of a communications network, such as cellular network 101, wishes to communicate with a terminal 1A across a computer network, eg Internet 100, it sends its own call number and an identifier of terminal 1A to a server 3 where they are associated and stored in a database. When terminal 1A connects to the computer network, the server is notified and presented with the terminal's identifier, which the server subsequently searches for in its database. Having found the identifier in its database, the server finds the associated call number of terminal 1B and notifies that terminal of the computer network address (eg IP address) of terminal 1A, following which, terminal 1B reconnects to the computer network and establishes communications with terminal 1A.

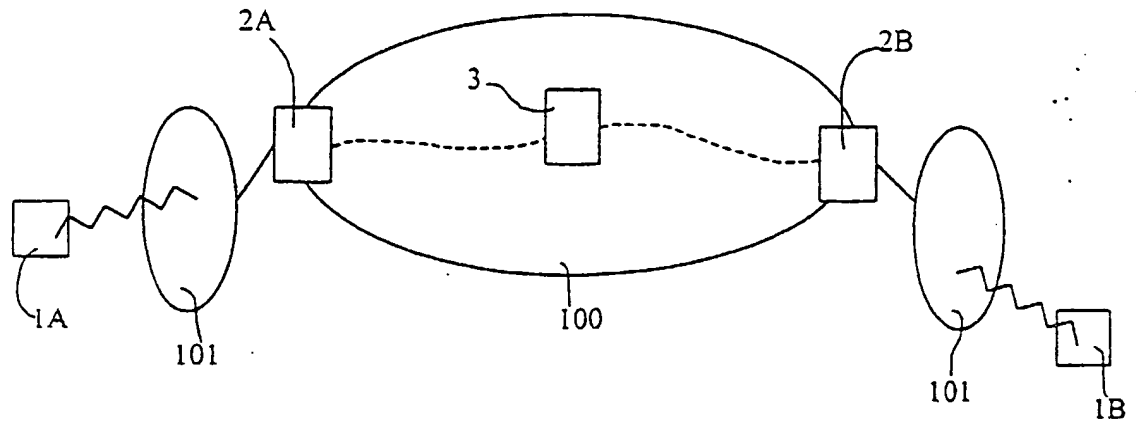
Terminal 1B may be an Internet enabled GSM handset and may be notified of terminal 1A's IP address via the cellular network's Short Message Service (SMS).

The terminals could be linked by an ISDN network, in which case the connecting server could notify terminal 1B of terminal 1A's connection via a message transmitted on a signalling channel without first having to establish a bidirectional telephone conversation over the ISDN network.

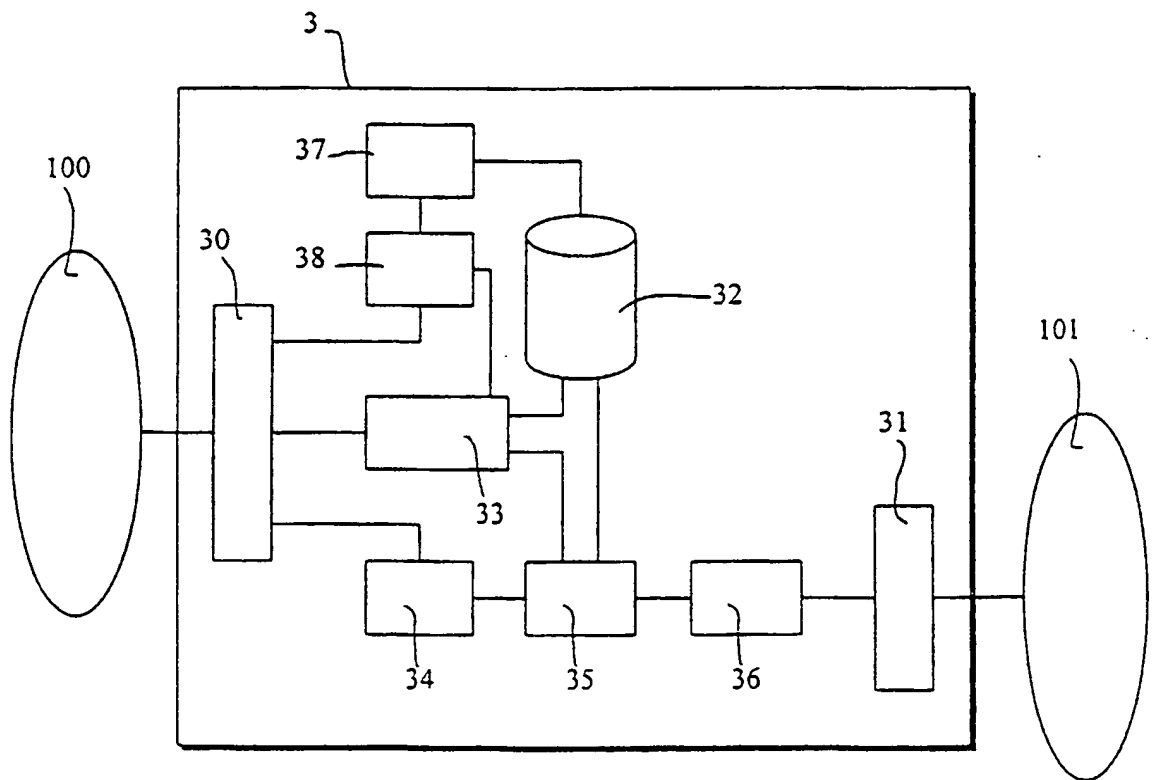


**Figure 1**

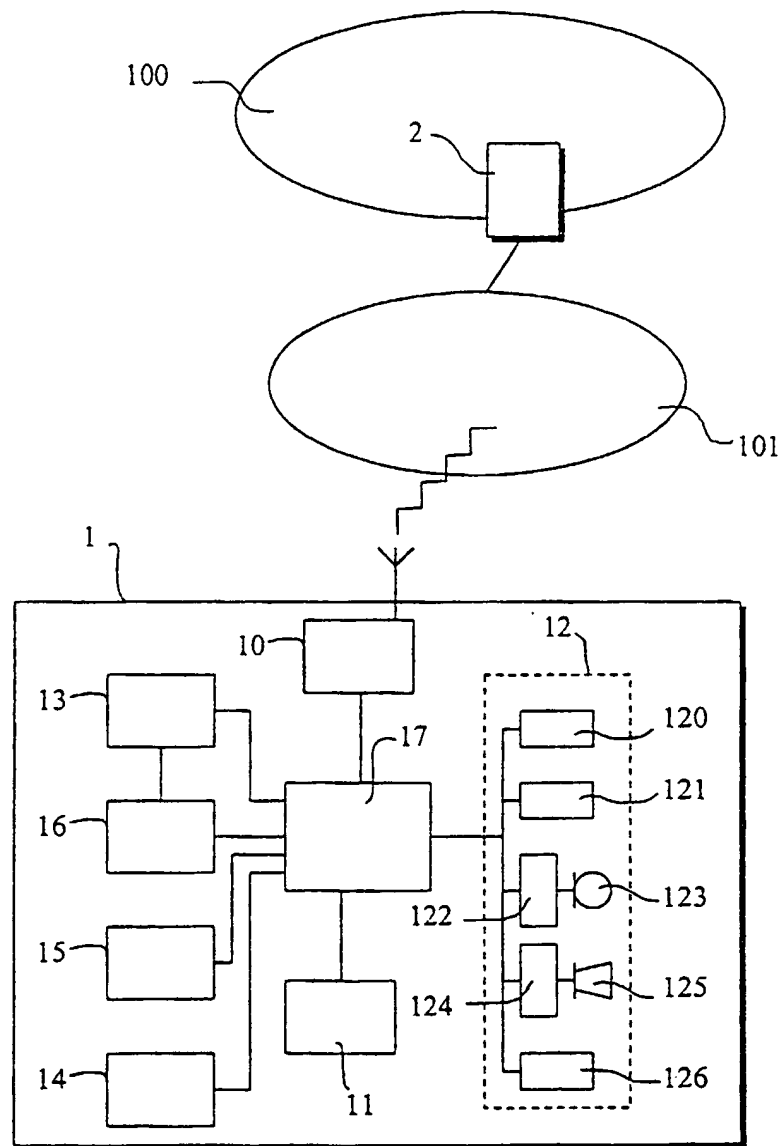
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**Figure 1**



**Figure 2**

**Figure 3**

DESCRIPTIONPROCESS FOR OPENING UP CONNECTION BETWEEN TWO TERMINALS, ACROSSA COMPUTER NETWORK, ASSOCIATED TERMINAL AND CONNECTING SERVER

A computer network such as the Internet allows terminals to communicate with one another, in real time, in writing or by voice.

To connect up to the Internet, a terminal must  
5 be furnished with access to the Internet provided by an access provider. This may be telephone access, for example via the STN network (Switched Telephone Network) or else access via a local network, such as a local company network, having its own Internet access  
10 provider. Under all circumstances, the cost of a long distance communication is much more advantageous across the Internet than across an ordinary telephone network. In the case of telephone access, one pays only for the cost of the telephone communication with the access  
15 provider, which generally takes place locally, and, in the case of access via a local network, the communication across the Internet is itself free of charge. In short, the cost advantages of the Internet are extremely significant.

20 However, the Internet has certain drawbacks.

One of these drawbacks resides in the fact that the terminals are generally not connected permanently to the Internet. Indeed, most terminals connect up to the Internet occasionally, for example to navigate  
25 around the Web, to send messages across the Internet or to peruse a mailbox for receiving messages. It follows that when a terminal wishes to communicate with another terminal across the Internet, it does not know a priori whether this other terminal is connected to the  
30 Internet and must therefore verify this, after itself being connected up to the Internet.

The present invention proposes firstly to alleviate this drawback.

To this end, the invention relates to a process  
35 for opening up connection, across a computer network, between a first terminal and a second terminal, with a call number pertaining to a telephone network, by way of a connecting server, in which process

- an identifier of the first terminal and the call number of the second terminal are stored and associated in a database of the server,

- the first terminal connects up to the computer network and notifies this to the server by transmitting its identifier thereto,

- the server searches for the identifier of the first terminal in its database, extracts therefrom the associated call number of the second terminal and notifies the second terminal of the connecting of the first terminal to the computer network, across the telephone network, and

- the second terminal connects up to the computer network so as to open up connection with the first terminal across the computer network.

Thus, the second terminal is advised, across the telephone network, of each connecting of the first terminal to the computer network and can then, if it so wishes, connect up to the computer network and open up connection with the first terminal.

Advantageously, the server notifies the second terminal of the connecting of the first terminal to the computer network, by the dispatching of a message across a signalling channel of the telephone network.

In this case, and preferably, the server notifies the second terminal of the connecting of the first terminal to the computer network by dispatching an SMS message across a cellular telephone network.

In the case where the second terminal is a cellular telephone, its user, contactable once the terminal has connected to the cellular network, is advised of each connecting of the first terminal to the computer network.

Another drawback of the Internet is related to the Internet's communication protocols. The Internet is a packet switching network, using packet communication protocols, in this instance the TCP (Transfer Control Protocol) and IP (Internet Protocol) protocols. The data are disassembled by the sender into IP data

packets which are transmitted across the Internet to the destination party and then reassembled by the latter. Each packet contains a destination address, called the "IP address", allowing the Internet to route  
5 the packet to the destination party.

Most communication terminals have a dynamic IP address, stated otherwise one which is not fixed. Generally, this address, allocated by the access provider, changes with each new connection of the  
10 terminal to the Internet.

In order for two terminals to open up connection with one another, across the Internet, each terminal must therefore ascertain the IP address of the other terminal, this proving to be difficult insofar as  
15 these IP addresses are not permanent.

The present invention aims also to solve this difficulty.

In a first embodiment,

- the first terminal having obtained a computer  
20 address by connecting up to the computer network, it transmits the said address to the server,

- the server transmits the address of the first terminal to the second terminal, across the telephone network, while notifying it of the connecting of the  
25 first terminal to the computer network.

In a second embodiment,

- the first terminal having obtained a computer address by connecting up to the computer network, it transmits the said address to the server,

30 - after having connected up to the computer network, the second terminal addresses an acquisition request to the server for the address of the first terminal,

- on receiving this request, the server sends  
35 the address of the first terminal to the second terminal, across the computer network.

In a third embodiment,

- the second terminal having obtained a computer address by connecting up to the computer network, it transmits the said address to the server,

- the server transmits the computer address of the second terminal to the first terminal, across the computer network.

The invention also relates to a terminal for communicating across a computer network, for implementing the above process, comprising means of connection to the computer network, characterized in that it comprises means for, during each connection to the computer network, automatically transmitting to the connecting server a notification of connection to the computer network.

The invention further relates to a server for opening up connection across a computer network, for implementing the above process, comprising means for storing and associating, in a database, telephone call numbers of terminals pertaining to a telephone network and identifiers of other terminals, means for receiving a notification of connection of a first terminal to the computer network, means for searching for the identifier of this first terminal in the database and for extracting therefrom the associated call number of at least one second terminal, and means for transmitting to the second terminal, across the telephone network, a notification signalling the connecting of the first terminal to the computer network.

The invention will be better understood with the aid of the following description of the process for opening up connection between the terminal and the connecting server, according to various embodiments of the invention, with reference to the appended drawing in which:

- Figure 1 represents a diagram of two terminals and of the connecting server,

- Figure 2 represents a functional block diagram of the server of Figure 1, and

- Figure 3 represents a functional block diagram of one of the terminals of Figure 1.

The process of the invention allows two terminals 1A, 1B to open up connection there between  
5 across a computer network 100, here the Internet, by way of a connecting server 3.

In the particular example of the description, the two terminals 1A and 1B are telephones of a cellular network 101. The terminal 1, represented in  
10 Figure 3, similar to the telephones 1A and 1B, will now be described.

The terminal 1 comprises, in a conventional manner, a radio transmission and reception block 10, a GSM communication block 11, a man/machine interface 12  
15 and a central control block 17.

The radio block 10 is intended for transmitting and for receiving radio signals across the cellular network 101 and the GSM communication block 11 allows the terminal 1 to communicate across the cellular  
20 network 101, by using the GSM communication protocol.

The man/machine interface 12 comprises a display screen 120, an input keypad 121, a microphone 123, a loudspeaker 125 and a block 126 for managing a GUI (Graphical User Interface). The microphone 123 and  
25 the loudspeaker 125 are respectively linked to an analog digital converter (CAN) 122 and to a digital analog converter (CNA) 124. The GUI interface comprises control means, icons, buttons and other information elements which can be displayed on the screen 120.

30 The central control block 17 comprises a microprocessor, to which all the elements of the terminal are linked, and is intended for controlling the operation of the terminal 1.

The terminal 1 furthermore comprises a block 13  
35 for connection to the Internet 100, an Internet navigator 14, a block 15 for communicating, here vocally, in real time, across the Internet 100, and a handler 16 for transmitting notifications.



The terminal 1 is furnished with access to the Internet 100, provided by an access provider 2. The Internet connection block 13 allows the terminal 1 to connect up to the Internet 100, by telephone  
5 connection, across the cellular network 101, to its access provider 2. When the terminal 1 connects up to the Internet 100, it obtains a computer address on the Internet 100, more commonly called the "IP address", allocated by the access provider 2. In the particular  
10 example of the description, this IP address is not fixed but changes with each new connection of the terminal 1 to the Internet 100.

The navigator 14 allows the terminal 1 to navigate around the Internet 100. The navigation around  
15 the Internet 100 consists in particular in retrieving information pages, or "Web pages", broadcast by Internet sites, and in displaying these pages on the screen 120.

The Internet communication block 15 allows a  
20 user of the terminal 1 to communicate by voice, in real time, with a corresponding party, across the Internet 100.

The handler 16, linked to the connection block 13, is configured so as to detect the connections of  
25 the terminal 1 to the Internet 100 and so as to transmit, upon each of these connections, a message of notification of connection to the Internet 100, to the connecting server 3, across the Internet 100, automatically (that is to say without the intervention  
30 of a user). This notification message contains an identifier of the terminal 1, prerecorded by the handler 16, the current IP address of the terminal 1, provided by the access provider 2 during connection of the terminal 1 to the Internet 100, and the indication  
35 according to which the terminal 1 is connected to the Internet 100.

With reference to Figure 2, the connecting server 3 comprises an interface 30 for connection to the Internet 100, an interface 31 for connection to the

cellular telephone network 101, a user database 32, a block 33 for managing the database 32, a block 34 for receiving notifications, a block 35 for processing the notifications received and a block 36 for transmitting  
5 notifications.

The database 32 contains the relational profiles of a plurality of user terminals. The relational profile of a terminal comprises the telephone call number of this terminal and the  
10 associated identifiers of one or more other corresponding terminals.

The management block 33, linked to the database 32 and to the Internet connection interface 30, is intended for storing new relational profiles, for  
15 modifying relational profiles and for deleting relational profiles, from the database 32, when requested by a user terminal, as will be explained hereinbelow.

The reception block 34, linked to the Internet  
20 connection interface 30 and to the processing block 35, is intended for receiving messages of notification of connection to the Internet 100, transmitted by user terminals, and for storing these messages temporarily until their processing by the block 35.

25 The transmission block 36, linked to the processing block 35 and to the telephone connection interface 31, is intended for transmitting, to a second terminal, across the telephone network 101, messages, here SMS (Short Message Service) for notification of  
30 the connecting of a first terminal to the Internet 100, so as to advise this second terminal of the connecting of the first terminal to the Internet 100.

The processing block 35, linked to the block 33 for managing the database 32 and to the database 32, is  
35 intended for processing the notifications received by the reception block 34. In case of reception of a message of notification of connection to the Internet 100, transmitted by a terminal A, the processing block 35 extracts the identifier of the terminal A from the

message, searches for this identifier in the database 32, retrieves therefrom the associated telephone call number(s) of a corresponding terminal, prepares an SMS message of notification of connection of the terminal A and instructs the transmitting of this SMS message to each of the associated corresponding terminals, across a signalling channel of the cellular network 101. The SMS message of notification of connection of the terminal A, transmitted by the server 3, contains the identifier and the IP address of the terminal A and the indication according to which the terminal A is connected to the Internet 100.

Furthermore, the server 3 hosts an Internet site, comprising information pages allowing the server 3 to communicate with user terminals. This site comprises in particular a home page, a page for creating a relational profile and a page for modifying/deleting a relational profile. The home page contains two hypertext links to the profile creation page and to the profile modification/deletion page, respectively. A server 3 comprises a block 37 for generating pages and an interface block 38, which is interposed between the block 37 and the Internet connection interface 30.

The generation block 37, linked to the database 32, is intended for generating the pages of the site, possibly with the aid of data contained in the database 32, and for supplying them to the interface block 38. The interface block 38, linked to the block 33 for managing the database 32, performs the function of communication interface between the user terminals and the site. It is intended for acquiring requests and data sent by these user terminals and for sending pages of the site to user terminals, when so requested by the latter, as will be explained hereinbelow.

The server 3 also comprises a central control block, not represented, comprising a microprocessor, to which all the elements of the server 3 are linked, and

which is intended for controlling the operation of the server 3.

The process for opening up connection between two terminals, here the telephones 1A and 1B, across the Internet 100, by way of the server 3, will now be described. The two telephones 1A, 1B, both similar to the terminal 1, are furnished with access to the Internet 100 via two access providers 2A, 2B respectively. For the sake of clarity, the corresponding elements of the terminals 1 and 1A, or 1B, bear the same references.

It is necessary beforehand to store the relational profile of the terminal 1B in the database 32 of the server 3. The subsequent steps, of storing the relational profile of the terminal 1B in the database 32, are performed by the terminal 1B, under the control of a user.

The terminal 1B connects up to the Internet 100, by telephone connection to the access provider 2B, across the cellular network 101. After connecting to the Internet 100, with the aid of its Internet navigator 14, the terminal 1B connects up to the connecting server 3 and retrieves the home page of its site, then the page for creating a relational profile, by activating the corresponding link.

The page for creating a relational profile contains an area for inputting the user terminal telephone call number and a plurality of areas for inputting a corresponding terminal identifier. The user of the terminal 1B inputs the telephone call number pertaining to the cellular network 101 of the terminal 1B and the identifier  $id_A$  of the corresponding terminal 1A, in the corresponding input areas, then confirms the input. The terminal 1B then sends the information input to the server 3. The latter then stores the relational profile of the terminal 1B, containing the associated call number of the terminal 1B and the associated identifier  $id_A$  of the terminal 1A, in the database 32. Of course, the relational profile of the terminal 1B

could contain other terminal identifiers, associated with the call number of the terminal 1B.

After having recorded its relational profile in the database 32 of the server 3, the terminal 1B  
5 disconnects from the Internet 100.

With each connection of the terminal 1A to the Internet 100, the terminal 1A obtains an IP address, which will subsequently be called the "address IP<sub>A</sub>", then, under the control of the handler 16, dispatches a  
10 message of notification of connection to the Internet 100 to the server 3, across the Internet 100, automatically. This message contains the identifier id<sub>A</sub> and the address IP<sub>A</sub> of the terminal 1A and the indication according to which the terminal 1A is  
15 connected to the Internet 100.

In the server 3, the reception block 34 receives the notification message from the terminal 1A then supplies it to the processing block 35. The latter recognizes that this is a notification of connection of  
20 the terminal 1A to the Internet 100, with the aid of the indication specifying same, extracts the identifier id<sub>A</sub> and the address IP<sub>A</sub> of the terminal 1A from the message, searches for the identifier id<sub>A</sub> in the relational profiles of the database 32, retrieves the  
25 telephone call number of the terminal 1B, associated with the identifier id<sub>A</sub> in the relational profile of the terminal 1B, then supplies the transmission block 36 with the identifier id<sub>A</sub> and the address IP<sub>A</sub> of the terminal 1A and the call number of the terminal 1B and  
30 instructs the transmitting, to the terminal 1B, of an SMS message of notification of connection of the terminal 1A to the Internet 100.

The transmission block 36 prepares the SMS message of notification of connection, containing the  
35 identifier id<sub>A</sub> and the address IP<sub>A</sub> of the terminal 1A and the indication according to which the terminal 1A is connected to the Internet 100, and transmits this message, across the telephone network 101, to the call number of the terminal 1B.

The terminal 1B receives the SMS message of notification of connection of the terminal 1A to the Internet 100. The user of the terminal 1B ascertains the content of this SMS message, then activates a specific command for communicating by voice and in real time with the user of the terminal 1A, across the Internet 100, by selection from the menus of the GUI interface 126. When invited by the terminal 1B, the user then inputs the address  $IP_A$ , extracted from the SMS message, of the terminal 1A and, under the control of the Internet communication block 15, the terminal 1B connects up to the Internet 100 and obtains an IP address, which will subsequently be called the "address  $IP_B$ ".

After connection of the terminal 1B to the Internet 100, the user of the terminal 1B engages in dialogue with the user of the terminal 1A. The voice signals, input by the user of the terminal 1B with the aid of the microphone 123, are converted into vocal data, the latter are disassembled into IP data packets and then transmitted, across the Internet 100, to the address  $IP_A$  of the terminal 1A. It will be noted here that the data packets, transmitted by the terminal 1B, convey the address  $IP_B$  of the latter. On reception, the terminal 1A reassembles the data packets into vocal data and then converts these data into vocal signals which are transmitted by the loudspeaker 125. Furthermore, the terminal 1A extracts the address  $IP_B$  of the terminal 1B from the first few data packets received.

Each terminal 1A (1B) having the address  $IP_B$  ( $IP_A$ ) of the other terminal 1B (1A), the two terminals 1A, 1B can then communicate by voice and in real time, across the Internet 100, by exchanging vocal data packets, as explained hereinabove.

In a second embodiment, differing from the foregoing description only with regard to what will now be described, the connecting server 3 does not send the address  $IP_A$  of the terminal 1A to the terminal 1B while

notifying it of the connecting of the terminal 1A to the Internet 100, but sends it later, when requested by the terminal 1B, as explained hereinafter.

After having received the message of notification of connection to the Internet 100 of the terminal 1A, the server 3 temporarily stores the address  $IP_A$  of the terminal 1A, in the database 32, by associating it with the identifier  $id_A$  of the terminal 1A in the relational profile of the terminal 1B, and notifies the terminal 1B of the connecting of the terminal 1A, by dispatching an SMS message across the telephone network 101.

After having received the notification of connection of the terminal 1A to the Internet 100, under the control of the user, the terminal 1B connects up to the Internet 100 then to the server 3 and addresses to the latter an acquisition request for the address  $IP_A$  of the terminal 1A, containing the telephone call number of the terminal 1B and the identifier  $id_A$  of the terminal 1A, across the Internet 100.

The server 3 extracts from the request received the call number of the terminal 1B and the identifier  $id_A$  of the terminal 1A, searches for the relational profile of the terminal 1B in the database 32 and extracts therefrom the address  $IP_A$ , associated with the identifier  $id_A$  of the terminal 1A. The server 3 then sends the address  $IP_A$  to the terminal 1B, across the Internet 100.

After having received the address  $IP_A$ , the terminal 1B can engage in vocal communication in real time, across the Internet 100, with the terminal 1A, as explained previously in the first embodiment of the process.

Before disconnecting from the Internet 100, under the control of the handler 16, the terminal 1A dispatches a message of notification of disconnection from the Internet 100 to the server 3, automatically. On receiving this message, the server 3 deletes the address  $IP_A$ , associated with the identifier of the

terminal 1A in the relational profile of the terminal 1B, from the database 32.

In a third embodiment, differing from the first embodiment described only with regard to what will now be described, the connecting server 3 does not send the address  $IP_A$  of the terminal 1A to the terminal 1B but, conversely, sends the address  $IP_B$  of the terminal 1B to the terminal 1A, as explained hereinafter.

After having received the message of notification of connection to the Internet 100 of the terminal 1A, the server 3 temporarily stores the address  $IP_A$ , extracted from the message, of the terminal 1A, in the database 32, by associating it with the identifier  $id_A$  of the terminal 1A, in the relational profile of the terminal 1B, then notifies the terminal 1B of the connecting of the terminal 1A to the Internet 100.

After having been notified of the connecting of the terminal 1A to the Internet 100, under the control of the user, the terminal 1B connects up to the Internet 100, thus obtaining an address  $IP_B$ , then to the server 3 and addresses to the latter a request for opening up connection with the terminal 1A, containing the telephone call number and the address  $IP_B$  of the terminal 1B and the identifier  $id_A$  of the terminal 1A, across the Internet 100.

The server 3 extracts from the request received the telephone call number and the address  $IP_B$  of the terminal 1B and the identifier  $id_A$  of the terminal 1A, searches for the relational profile of the terminal 1B in the database 32 and extracts therefrom the address  $IP_A$ , associated with the identifier  $id_A$  of the terminal 1A. The server 3 then sends the address  $IP_B$  of the terminal 1B to the address  $IP_A$  of the terminal 1A, across the Internet 100.

After having received the address  $IP_B$ , the terminal 1A can engage in vocal communication in real time, across the Internet 100, with the terminal 1B, as explained previously.



Before disconnecting from the Internet 100, under the control of the handler 16, the terminal 1A dispatches a message of notification of disconnection from the Internet 100 to the server 3, automatically.

5 On receiving this message, the server 3 deletes the address  $IP_A$ , associated with the identifier  $id_A$  of the terminal 1A in the relational profile of the terminal 1B, from the database 32.

10 In a variant of this third embodiment, the server 3 does not resend the address  $IP_B$  of the terminal 1B to the terminal 1A, immediately after having received it, but temporarily stores this address  $IP_B$  in the database 32, while associating it with the relational profile of the terminal 1B.

15 After having notified the server 3 of its connection to the Internet 100, under the control of the handler 16, the terminal 1A regularly addresses an acquisition request to the server 3 for the IP address of a corresponding terminal, automatically. Thus, after  
20 having received and stored the address  $IP_B$ , the server 3 sends the terminal 1A the address  $IP_B$  and the call number of the terminal 1B, across the Internet 100, on receiving one of these acquisition requests. The call number of the terminal 1B allows the user of the  
25 terminal 1A to identify the terminal 1B. It would also be possible to envisage the terminal 1B sending an identifier  $id_B$  to the server 3, with its address  $IP_B$ , and to envisage the server 3 sending this identifier  $id_B$  to the terminal 1A, with the address  $IP_B$ .

30 In general, the communication between the server 3 and the terminal 1B, or 1A, can be performed by dispatching, via the server 3, to the terminal 1B, or 1A, Internet site pages, as explained in the first embodiment, or according to a predefined communication  
35 protocol.

The identifier  $id_A$  of the terminal 1A can comprise a user name, the telephone call number of the terminal 1A or any other identification element.

Instead of incorporating an interface for connection to the cellular telephone network and of thus being linked directly to the telephone network, the connecting server could be linked to the telephone  
5 network by way of a gateway between the Internet and the telephone network. In this case, the server would be linked to this gateway across a communication network.

In the foregoing description, the terminal 1A  
10 is a telephone configured so as to connect up to the Internet 100 by telephone connection, across the cellular network 101. It is in fact a telephone and computer terminal. It could also be a computer-only terminal, such as a PC computer, configured so as to  
15 connect up to the Internet for example across a local computer network of the LAN type (Local Area Network).

The terminal of the invention could also be without any transmission handler, intended for automatically transmitting a notification of  
20 connection, or of disconnection, to the Internet or else acquisition requests for a corresponding terminal IP address. In this case, the terminal would address these notifications to the connecting server, under the control of the user of the terminal.

In the foregoing description, terminal  
25 relational profiles (1B) comprising, for each terminal (1B), the telephone call number of this terminal (1B) and one or more identifiers ( $id_A$ ) of the corresponding terminal (1A) are stored in the database (32) of the  
30 connecting server (3) so as to notify this terminal (1B) of each connection of the corresponding terminal (1A). As a variant, relational profiles of a terminal (1A) comprising, for each terminal (1A), the identifier ( $id_A$ ) of this terminal (1A) and one or more telephone  
35 call numbers of the corresponding terminals (1B) are stored in the database 32 of the connecting server 3 so as to notify of each connecting of this terminal (1A) to each corresponding terminal (1B).

Instead of communicating by voice, the two terminals could communicate in writing.

Instead of being dynamic, the IP address of the terminal 1A and/or of the terminal 1B could be fixed.

5       The user database of the connecting server could be external to the server.

Of course, the terminals 1A and 1B could be linked to any type of telephone network, for example to the ISDN network (Integrated Services Digital Network).

10       In this case, the connecting server could notify a second terminal of the connecting to the Internet of a first terminal, by dispatching a message across a signalling channel of the ISDN network, without establishing any bidirectional telephone communication  
15       with the second terminal.

The invention could also be applied to any computer network other than the Internet.

CLAIMS

1. A process for opening up connection, across a computer network, between a first terminal and a second terminal, with a call number pertaining to a telephone network, by way of a connecting server, in which process

- an identifier of the first terminal and the call number of the second terminal are stored and associated in a database of the server,

- the first terminal connects up to the computer network and notifies this to the server by transmitting its identifier thereto,

- the server searches for the identifier of the first terminal in its database, extracts therefrom the associated call number of the second terminal and notifies the second terminal of the connecting of the first terminal to the computer network, across the telephone network, and

- the second terminal connects up to the computer network so as to open up connection with the first terminal across the computer network.

2. A process according to claim 1, in which the server notifies the second terminal of the connecting of the first terminal to the computer network, by the dispatching of a message across a signalling channel of the telephone network.

3. A process according to claim 2, in which the server notifies the second terminal of the connecting of the first terminal to the computer network by dispatching an SMS message across a cellular telephone network.

4. A process according to any of claims 1 to 3, in

which

- the first terminal having obtained a computer address by connecting up to the computer network, it transmits the said address to the server,

- the server transmits the address of the first terminal to the second terminal, across the telephone network, while notifying it of the connecting of the first terminal to the computer network.

5. A process according to any of claims 1 to 3, in which

- the first terminal having obtained a computer address by connecting up to the computer network, it transmits the said address to the server,

- after having connected up to the computer network, the second terminal addresses an acquisition request to the server for the address of the first terminal,

- on receiving this request, the server sends the address of the first terminal to the second terminal, across the computer network.

6. A process according to any of claims 1 to 3, in which

- the second terminal having obtained a computer address by connecting up to the computer network, it transmits the said address to the server,

- the server transmits the computer address of the second terminal to the first terminal, across the computer network.

7. A process according to any of claims 1 to 6, in which terminal relational profiles comprising, for each terminal, the call number of this terminal and the

identifier of at least one corresponding terminal, are stored in the database of the server so as to notify the said terminal of each connecting of the corresponding terminal to the computer network.

8. A process according to any of claims 1 to 6, in which terminal relational profiles comprising, for each terminal, the identifier of this terminal and the telephone call number of at least one corresponding terminal, are stored in the database of the server so as to notify the corresponding terminal of each connecting of the corresponding terminal to the computer network.

9. A terminal for communicating across a computer network, for implementing the process of claim 1, comprising means of connection to the computer network and means for, during each connection to the computer network, automatically transmitting to the connecting server a notification of connection to the computer network.

10. A terminal according to claim 9, in which there are provided means for regularly addressing an acquisition request, automatically, to the server for the computer address of a corresponding terminal.

11. A server for opening up connection across a computer network, for implementing the process of claim 1, comprising means for storing and associating, in a database, call numbers of terminals pertaining to a telephone network and identifiers of other terminals, means for receiving a notification of connection of a first terminal to the computer network, means for searching for the identifier of this first terminal in

the database and for extracting therefrom the associated call number of at least one second terminal, and means for transmitting to the second terminal, across the telephone network, a notification signalling the connecting of the first terminal to the computer network.

12. A process for opening up connection across a computer network, substantially as hereinbefore described, with reference to the accompanying drawings.

13. A terminal for communicating across a computer network, substantially as hereinbefore described, with reference to and as illustrated in the accompanying drawings.

14. A server for opening up connection across a computer network, substantially as hereinbefore described, with reference to and as illustrated in the accompanying drawings.



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Application No: GB 0023234.8  
Claims searched: 1 to 11

Examiner: Jared Stokes  
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## Patents Act 1977 Search Report under Section 17

### Databases searched:

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:

UK Cl (Ed.S): H4K (KOA)

Int Cl (Ed.7): H04M (7/00)

Other: On-Line - EPODOC, JAPIO, WPI

### Documents considered to be relevant:

Category	Identity of document and relevant passage	Relevant to claims
A	GB 2 350 012 A (Sagem) See abstract	-
A	EP 0 794 643 A2 (AT&T) See abstract	-
A	WO 99/12365 A1 (Telia) See page 15 line 12-page 16 line 25	-

X	Document indicating lack of novelty or inventive step	A	Document indicating technological background and/or state of the art.
Y	Document indicating lack of inventive step if combined with one or more other documents of same category.	P	Document published on or after the declared priority date but before the filing date of this invention.
&	Member of the same patent family	E	Patent document published on or after, but with priority date earlier than, the filing date of this application.